

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A process of PECVD deposition comprising the steps of:
providing an ion promoting atmosphere comprising at least a precursor gas, a reactant gas, and a chemically inert reactive species promoter gas; and
contacting a substrate with a plasma formed in the ion promoting atmosphere, having a composition of approximately 50 to 90 % of a metal-containing gas in said ion promoting atmosphere at a pressure and temperature range sufficient for film deposition of said metal.
2. (Original) The process of claim 1 wherein said step of providing an ion promoting atmosphere comprises selecting said ion atmosphere from a group consisting of nitrogen gas, argon gas, neon gas, krypton gas, xenon gas, helium gas and radon gas.
3. (Original) The process of claim 1 wherein said step of contacting a substrate with a plasma comprises having a temperature range of approximately 150 to 500 degrees Celsius.
4. (Previously Amended) The process of claim 1 wherein said step of contacting a substrate with a plasma comprises having a pressure range of 1 mTorr to 10 Torr.
- 5-28. (Canceled)
29. (Currently Amended) A process for PECVD deposition of metal-containing films on a surface, the process comprising:
maintaining a pressure and a temperature in a combination of gases comprising at least a precursor gas, a reactant gas, and a chemically inert reactive species promoter gas which allow for PECVD metal-containing film deposition; and
contacting said surface with a plasma formed in said combination of gases of approximately 50 to 90% metal-containing compound in a chemically inert atmosphere.
- 30-66. (Canceled)

67. (New) A process of chemical vapor deposition comprising:

providing a deposition gas mixture having at least two distinct chemical materials acting as a precursor and a reactant, the deposition gas mixture having a precursor to reactant chemical reaction potential, and a chemically inert reaction promoter mixed with said deposition gas;

transporting said deposition gas mixture to a reaction chamber having a predetermined pressure and temperature; and

contacting a substrate with a plasma formed in the deposition gas mixture to form a film on at least one surface of the substrate.

68. (New) The process of claim 67, wherein the precursor has a first flow rate, the reactant has a second flow rate, and the reaction promoter has a third flow rate that is between 10% to 100% of the second flow rate.

69. (New) The process of claim 68, wherein the reaction promoter has a flow rate that is approximately 40% of the second flow rate.

70. (New) The process of claim 68, wherein the first flow rate is about 10 sccm, the second flow rate is about 10,000 sccm, and the third flow rate is about 4,000 sccm.

71. (New) The process of claim 68, wherein the chemical vapor deposition process comprises at least one of a low pressure chemical vapor deposition, a plasma enhanced chemical vapor deposition, an inductively coupled high density plasma chemical vapor deposition;

the precursor comprises a metal film precursor deposition gas selected from a list including an organometallic material, a metal oxide, a metal fluoride, a metal chloride, tetrakis (diethylamino) metal, and tetrakis (dimethylamino) metal;

the reactant is selected from a list including hydrogen, oxygen, chlorine, fluorine, bromine, iodine and combinations thereof; and

the reaction promoter includes gases that are not chemically active with a selected one of the precursors and a selected one of the reactants, and are selected from the list including argon, neon, krypton, xenon, radon, nitrogen and combinations thereof.